

WHAT IS CLAIMED IS:

1. A method of producing a plate spring, comprising the steps of:
preparing a plate spring that includes an annular resilient portion; and
applying compression residual stress to a portion of the resilient portion.
- 5 2. The method of producing a plate spring set forth in claim 1, wherein shot-peening is performed in order to apply compression residual stress to the resilient portion.
3. The method of producing a plate spring set forth in claim 1, wherein compression residual stress is applied to at least one surface of the resilient portion.
- 10 4. The method of producing a plate spring set forth in claim 1, wherein the compression residual stress is applied by means of shot-peening to between about 5% and about 95% of the surface area of the resilient portion.
5. The method of producing a plate spring set forth in claim 1, wherein the compression residual stress is applied by means of shot-peening to about 20% of the
15 resilient portion in a thickness direction.
6. The method of producing a plate spring set forth in claim 1, wherein the size of the compression residual stress to be applied to the resilient portion is between about 200 MPa to about 1500 MPa.
7. A method of producing a plate spring, comprising the steps of:
20 preparing a plate spring that includes an annular resilient portion;
 applying a first compression residual stress to the entire resilient portion; and
 applying a higher second compression residual stress to a portion of the resilient portion.